

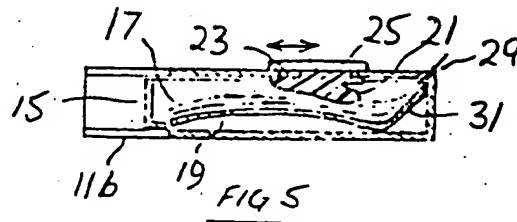
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(54) Writing implements

(57) In order to provide a ready-to-hand supply of writing material, a pen or the like carries a stack of paper (17) in a hopper (15) within a housing (11) at the end of the pen opposite the tip (14). The paper can be withdrawn from hopper (15) through a slot (29) in the housing.

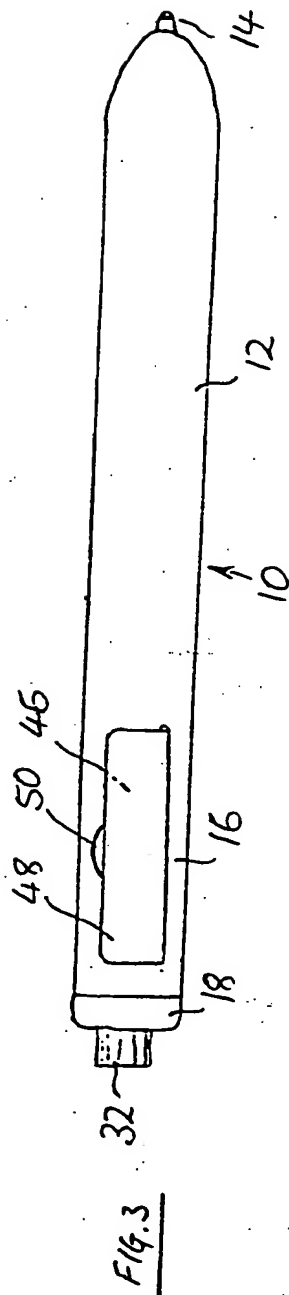
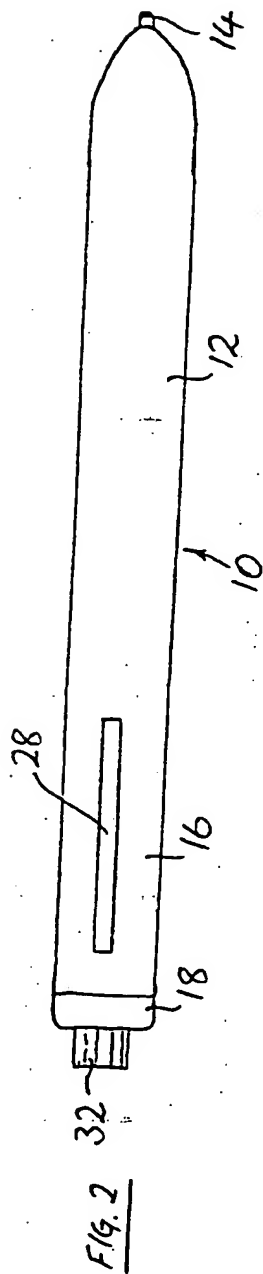
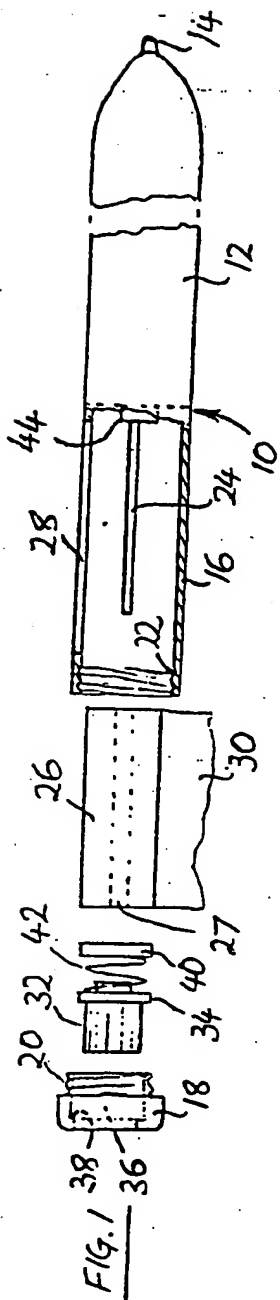
A pen which dispenses paper from a roll is also disclosed.



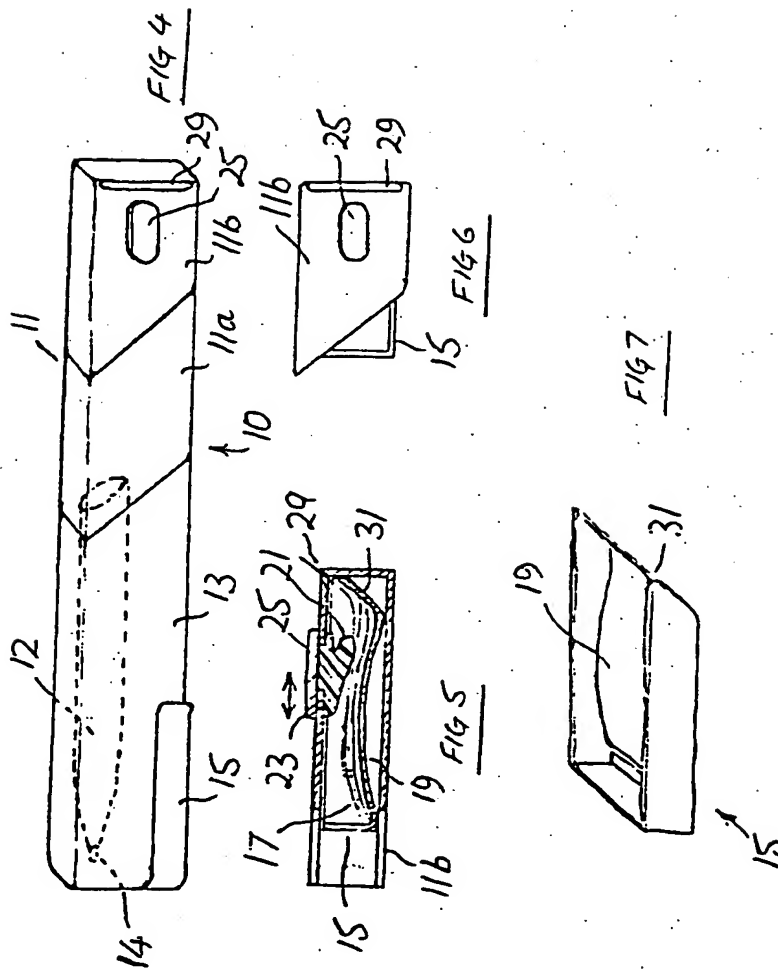
The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

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SPECIFICATION

Writing implements

- 5 This group of inventions relates to writing implements.

In order to write with known writing implements such as known pens or pencils, the writer needs to find some material on which to write, such as a piece of paper.

10 of paper.

One of the present inventions provides a writing implement carrying a supply of paper or like writing material dispensable from the implement.

- Another of the present inventions provides a writing implement having a housing to hold a supply of paper or the like writing material, the housing being provided with a slot through which to dispense the writing material.

- Two specific embodiments of the present invention and modifications thereto will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 is a partially sectioned, partially cut-away, side view of a ball-point pen according to the present inventions;

- Figure 2* is a side view of the pen shown in *Figure 1* in the direction II;

- Figure 3* is a side view similar to *Figure 2* of a modified ball-point pen according to the present inventions;

Figure 4 is a perspective view of a further ball-point pen according to the present inventions;

Figure 5 is a sectional view of part of the pen shown in *Figure 4* on an enlarged scale;

- Figure 6* is a further view of the part shown in *Figure 5*; and

Figure 6 is a perspective view of a paper hopper used in the pen shown in *Figure 4* on an enlarged scale.

- Referring to *Figures 1* and *2*, a generally cylindrical body of the ball-point pen is indicated by the reference numeral 10. A portion 12 of the body 10 contains an ink reservoir which feeds a ball-point tip 14 projecting from one end of the body 10.

- The other end of the body 10 is hollow and forms a cylindrical housing 16 which is provided with an end-cap 18 engaging the body 10 by means of co-operating screw threads 20, 22. An axle 24 is mounted on the body 10 and extends axially part-way through the housing 16, and a roll 26 of thin paper is rotatably supported on the axle 24 by a bore 27 through the roll 26 provided either by the paper itself or by a thin tube. The housing 16 is formed with a narrow elongate slot 28 extending parallel to the axle 24 and in register with the roll 26, and the outer end 30 of the roll 26 projects into the slot.

- A manually rotatable knob 32 having a flange 34 is supported in an opening 36, having a shoulder 38, in the end-cap 18, the flange 34 engaging the shoulder. An elastomeric friction disc 40 is coupled to the knob by a coil spring 42, and the disc 40 bears against one end of the roll 26 of paper. The other end of the roll 26 bears against a support 44 of low friction material.

- In order to dispense paper from the pen, the knob 32 is simultaneously depressed to increase the

frictional engagement of the pad 40 with the roll 26 and turned anticlockwise. Thus, the end 30 of the roll is projected through the slot. A long piece of paper can be dispensed by repeated depression and turning of the knob 32, or by pulling the projecting end of the roll. Once the required length of paper has been dispensed, the paper is torn from the roll, and the edge of the slot may be used to assist in tearing.

The pen can then be used to write on the paper.

- When the roll 26 of paper has been used up, a refill roll may be inserted after removal of the screw-threaded end cap 18.

- To assist in the dispensing of paper, the narrow slot 28 may be inclined through the thickness of the wall of the housing 16 generally in the direction at which the end 30 leads off from the roll 26.

Furthermore, a guide surface may be provided within the housing 16 to guide and direct the end 30 of the roll towards the slot.

- A modification of the pen shown in *Figures 1* and *2* is shown in *Figure 3*. This modified pen has a wider slot 46 than the slot in the previously described embodiment. A door 48 is hinged to one edge of the slot 46 to close the slot 46, and recess 50 is provided adjacent the opposite edge of the slot to facilitate opening of the door. When the door is opened, the end 30 of the roll 36 can be pulled through the slot 46.

- Referring now to *Figures 4* to *7*, a body of a further ball-point pen is indicated generally by the reference numeral 10. The body 10 has a hollow generally rectangular section portion 11 from which projects a generally cylindrical portion 12 containing an ink reservoir which feeds at ball-point tip 14 at the end of the portion 12. A removable, generally rectangular section, matching cap 13 fits over the reservoir portion 12 and has a clip 15.

- The hollow portion 11 has two separable parts 11a and 11b which provide a housing for a hopper 15 containing a bundle of rectangular sheets 17 of thin paper. The two separable housing parts 11a and 11b are provided with a means for releasably locking them to each other.

- The hopper 15 has a sprung floor 19 which may be an integral part of the hopper in the form of a bent resilient leaf, or may be a separate bent resilient insert. The purpose of the sprung floor 19 is to press the bundle of sheets 17 upwardly against an elastomeric shoe 21.

- The shoe 21 is slidable in a slot 23 in the housing portion 11b towards and away from the end of the pen by means of manually operable slide button 25 fixed to the shoe. The button 25 and shoe 21 have flange portions to retain them to the housing portion 11b.

- At the end of the face of the housing portion 11b on which the button 25 is mounted, an elongate slot 29 extends substantially completely along the edge of the housing portion 11b. That wall 31 of the hopper 15 adjacent the slot 29 is inclined towards the slot 29, and the slot 29 is inclined at a similar angle through the thickness of the wall of the housing part 11b.

- To dispense one of the sheets 17 of paper, the button 25 is pushed in a direction towards the slot

29. The top sheet of the bundle, which is pressed against the shoe 21 by the action of the sprung floor 19, is pushed by the shoe 21, due to friction engagement of the shoe 21 with the top sheet, towards and part-way through the slot 29, the sheet being guided by the inclined wall 31 of the hopper 15. The sheet can then be manually pulled completely from the housing, and the pen can be used to write on the sheet. The button can be returned ready for dispense of the next sheet.

When all the sheets in the bundle have been dispensed, the two housing parts 11a, 11b can be separated and the hopper can be charged with a fresh bundle of sheets.

15 The invention may be applied to writing implements other than ball-point pens, for example pencils, fountain pens and felt-tipped pens.

CLAIMS

1. A writing implement carrying a supply of paper or like writing material dispensable from the implement.
2. An implement as claimed in Claim 1, wherein the implement has a housing holding the supply of writing material, the housing having a slot through which the writing material can be dispensed.
3. A writing implement having a housing to hold a supply of paper or the like writing material, the housing being provided with a slot through which to dispense the writing material.
4. A writing implement as claimed in Claim 2 or Claim 3, wherein the implement has an elongate body with the housing provided at one end of the body and the writing tip of the implement provided at the other end of the body.
5. An implement as claimed in any preceding claim, further including a manually operable dispense device for acting on the supply writing material to dispense a piece of writing material at last part-way through the slot upon operation of the device.
6. An implement as claimed in Claim 5, wherein a surface is provided to direct the piece of writing material towards the slot upon operation of the dispense device.
7. An implement as claimed in any of Claims 2 to 4 or in Claim 5 or 6 as dependent thereon, wherein the housing is adapted to hold a bundle of sheets of writing material in such a manner that the slot is disposed adjacent one end of the bundle for dispense of the sheets through the slot.
8. An implement as claimed in Claim 7 as dependent on Claim 5 or 6, wherein the dispense device includes a friction shoe slidably mounted within the housing for movement towards and away from the slot, biasing means being provided to bias the bundle of sheets towards the shoe, and the shoe being adapted to engage an end sheet of the bundle with sufficient friction to push that sheet part-way through the slot upon operation of the dispense device.
9. An implement as claimed in Claim 7 or 8, further including a removable hopper for the bundle.
10. An implement as claimed in Claim 9 as

dependent on Claim 6, wherein the directing surface is provided by a wall of the hopper.

11. An implement as claimed in Claim 9 or 10 as dependent on 8, wherein the biasing means is provided by a sprung floor of the hopper.

12. An implement as claimed in any of Claims 7 to 11, wherein a bundle of sheets of paper or the like writing material is provided in the housing.

13. An implement as claimed in any of Claims 2 to 4 or in Claim 5 or 6 as dependent thereon, wherein the housing is adapted to hold a roll of writing material in such a manner that the slot is generally parallel to the axis of the roll for dispense of the writing material from the roll through the slot.

14. An implement as claimed in Claim 13, as dependent on Claim 5 or Claim 6, wherein the dispense device includes means for engaging the roll and for rotating the roll upon operation of the dispense device.

15. An implement as claimed in Claim 14, wherein the roll engaging and rotating means includes a friction pad adapted to engage the roll with sufficient friction to rotate the roll to push the outer end of the roll through the slot upon operation of the dispense device.

16. An implement as claimed in Claim 15, wherein the dispense device further includes a manually rotatable knob coupled to the pad, the knob further being depressible towards the pad to increase the frictional engagement of the pad with the roll.

17. An implement as claimed in Claim 16, wherein the knob is coupled to the pad by a spring.

18. An implement as claimed in any of Claims 13 to 17, wherein an axle extends at least part-way across the housing on which to mount the roll.

19. An implement as claimed in any of Claims 13 to 18, wherein a roll of paper or the like writing material is provided in the housing.

20. An implement as claimed in Claim 2 or Claim 3, or any of Claims 4 to 19, as dependent thereon wherein a door is provided to close the slot.

21. A writing implement substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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